Patent claims

1.   A protective apparatus for protecting an electric machine
against current overload,
characterized by
-    a current value provision device for the purpose of
     providing a present current value with which the electric
     machine is operated,
-    a prediction device (2, 4) for the purpose of predicting
     an absolute or relative time value as a function of the
     present current value, and
-    a utilization device (5) for the purpose of utilizing the
     time value for generating a control signal.

2.   The protective apparatus as claimed in claim 1, it being
possible for a present thermal variable to be calculated in the
prediction device (2, 4) on the basis of the present current
value such that the thermal variable can be used as a basis for
the prediction.

3.   The protective apparatus as claimed in claim 2, it being
possible for the thermal variable to be calculated recursively
in the prediction device (2, 4).

4.   The protective apparatus as claimed in claim 2 or 3, it
being possible for the time value to be calculated dynamically
using the present thermal variable.

5.   The protective apparatus as claimed in one of the
preceding claims, it being possible for the prediction device
(2, 4) and/or the utilization device (5) to be parameterized.

6. The protective apparatus as claimed in one of the preceding claims, it being possible for a disconnection signal or warning signal to be generated as a control signal in the utilization device (5).

7.   A method for protecting an electric machine against
current overload,
characterized by
-      provision of a present current value with which the
       electric machine is operated,
-      prediction of an absolute or relative time value as a
       function of the present current value, and
-      generation of a control signal using the time value, and
-      driving of the electric machine using the control signal.

8.   The method as claimed in claim 7, a present thermal
variable being calculated on the basis of the present current
value, and the thermal variable being used as the basis for the
prediction.

9.   The method as claimed in claim 8, the thermal variable
being calculated recursively.

10. The method as claimed in claim 8 or 9, the time value
being calculated dynamically using the present thermal
variable.

11. The method as claimed in one of claims 7 to 10, the
process for generating a control signal being parameterized
individually.

12. The method as claimed in one of claims 7 to 11, a
disconnection signal or warning signal being generated as a
control signal.